

## CLAIMS

1. A telecommunications system which comprises an office network and an operator network and a local area network between them, wherein the office network comprises

5           at least one mobile system terminal,  
             a base transceiver station,  
             a radio access gateway controlling the base transceiver station and adapted to have a functional connection with the local area network and configured to adapt the data transmission protocols of said mobile system and  
 10          local area network to each other,

            a call control entity, which is configured to control said radio access gateway through a signalling connection and arranged to detect the establishment of an internal data connection in the office network, which data connection uses a data protocol according to said mobile system;

15          an interworking function to which a signalling connection from said call control entity is arranged and which interworking function is configured to adapt data connections according to the data protocol of at least said mobile system and coming from the radio access gateway to the data protocol according to said office network, in response to the call control entity detecting  
 20          the establishment of an internal data connection in the office network, at least the second party of the data connection being said mobile system terminal, and

            the operator network is configured to adapt data transmission between the office network and a public land mobile network together.

25          2. A telecommunications system as claimed in claim 1, further comprising

            a location database for registering terminals belonging to the office network and for managing location and subscriber information,

30          and in response to a data connection establishment request made by the terminal, the call control entity is configured to authenticate the subscriber of the terminal and alternatively

            to direct the radio access gateway to route the data connection to said interworking function in response to said subscriber of the terminal being registered into the office network, or

to direct the radio access gateway to route the data connection through the operator network to a switching centre of the public land mobile network in response to the fact that the subscriber of the terminal is not registered into the office network.

5           3. A telecommunications system as claimed in claim 1, wherein said office-specific base transceiver station, radio access gateway and interworking function are implemented as one element of the telecommunications system.

10           4. A telecommunications system as claimed in claim 1, wherein said radio access gateway and interworking function are implemented as one element of the telecommunications system in such a manner that the element is configured to control one or more office-specific base transceiver stations.

15           5. A telecommunications system as claimed in claim 1, wherein said office-specific base transceiver station, radio access gateway and interworking function are implemented as separate elements of the telecommunication system in such a manner that the radio access gateway is configured to control one or more office-specific base transceiver stations.

20           6. A telecommunications system as claimed in claim 1, wherein said data protocol according the mobile system is a GSM protocol and said data protocol of the office network is a H.323 protocol, and the radio access gateway is configured to adapt data frames according to the GSM protocol in the user data into RTP frames and the interworking function is configured to disassemble said RTP  
25 frames and to adapt the user data into frames according to the data protocol of the office network.

30           7. A telecommunications system as claimed in claim 1, wherein a remote access server is configured to function as an interface between the office network and the local area network, and the interworking function is configured to transmit user data adapted to frames according to the data protocol of the office network to the remote access network.

35           8. A telecommunications system as claimed in claim 7, wherein a terminal registered into the office network is configured to establish a data connection to said remote access server from outside said office network as a dial-up connection.

9. A telecommunications system as claimed in claim 7, wherein

a terminal registered into the office network is configured to establish a data connection to said remote access server from outside said office network as a virtual private network (VPN) connection.

10. A method of establishing a data connection in a  
5 telecommunications system which comprises an office network and an operator network and a local area network between them, the office network comprising at least one mobile system terminal, a base transceiver station, a radio access gateway controlling the base transceiver station and adapted to have a functional connection with the local area network, a call control entity,  
10 an interworking function to which a signalling connection from said call control entity is arranged, the method comprising

controlling said radio access gateway by the call control entity through a signalling connection,

15 detecting the establishment of an internal data connection in the office network by said call control entity, which data connection uses a data protocol according to said mobile system,

adapting data connections according to the data protocol of at least said mobile system and coming from the radio access gateway are adapted to the data protocol according to said office network, in response to the fact that  
20 the call control entity detects the establishment of an internal data connection in the office network, at least the second party of the data connection being said mobile system terminal, and

adapting the data transmission between the office network and a public land mobile network together in said operator network.

25 11. A method as claimed in claim 10, wherein the telecommunications system comprises a location database for registering terminals belonging to the office network and for managing location and subscriber information, and the method further comprising

30 authenticating the subscriber of the terminal in the call control entity in response to the data connection establishment request made by the terminal, and alternatively

directing the radio access gateway to route the data connection to said interworking function in response to the fact that said subscriber of the terminal is registered into the office network, or

35 directing the radio access gateway to route the data connection through the operator network to a switching centre of the public land mobile

network in response to the fact that the subscriber of the terminal is not registered into the office network.

11-11-2011 11:11:11